



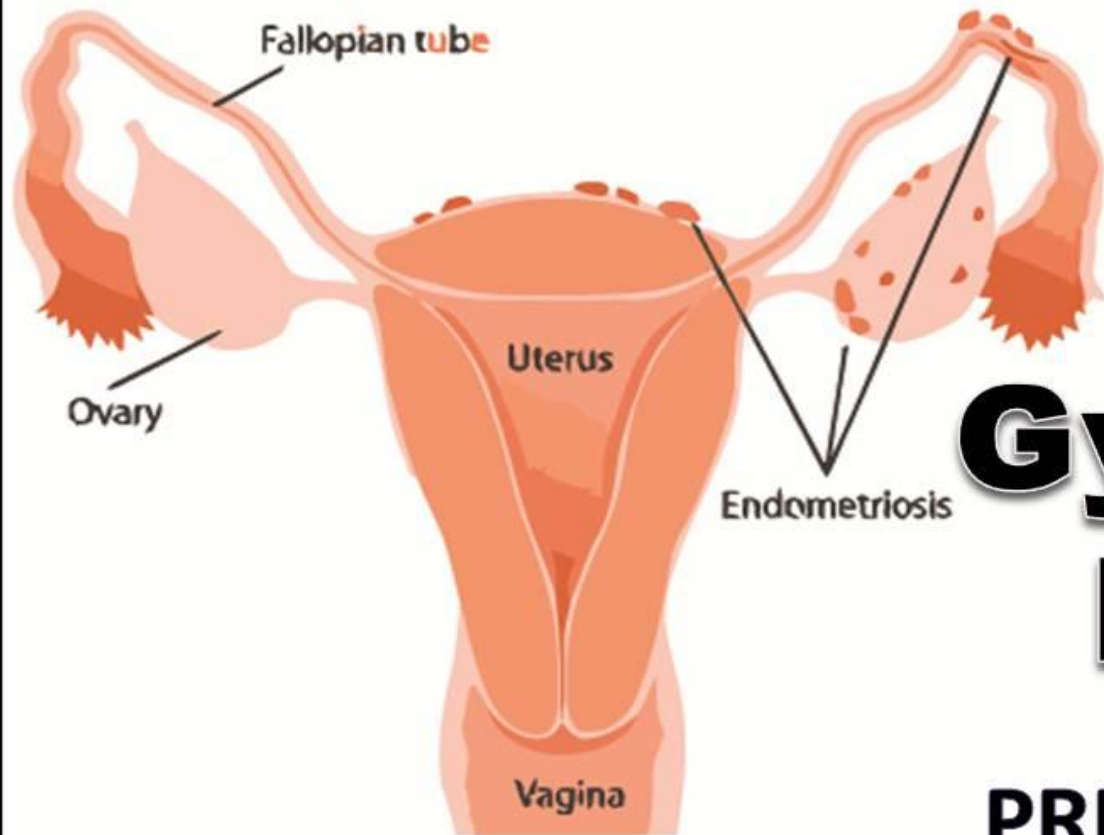
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PRESENT

Gynecology Revision

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Contraception

	IUD	OCP	Natural methods	Barrier methods
Mode of action	1- Interfere with implantation : local foreign body inflammatory response – increased local PGL production – Cu inhibit carbonic anhydrase & alkaline phosphatase – progesterone induce atrophic endometrial changes 2- Interfere with sperms : inhibiting sperm migration – Cu produce toxic effect on sperm - progesterone produce thick cervical mucus	1- Estrogen : inhibit ovulation via suppression of GnRH 2- Progesterone : Endometrial effect (atrophic changes) / cervical effect (thick mucus) / tubal (altered tubal motility) / ovarian (interfere with ovulation) 3- Also : excellent cycle control / prevent endometrial hyperplasia when combined	Natural methods does not need any facilities : Coitus interruptus : prevent semen deposition in vagina Safe period : avoiding intercourse in days of suspected ovulation Prolonged lactation : suppress GnRH by high level of prolactin	Prevent sperm egg
Types	• Copper IUD : Cu T 380 the most commonly used used for 4-6 years • Copper + silver (Nova T) silver is added to prevent Cu degradation • Progesterone releasing IUD _ (Mirena) release levonorgestrel 35 ug/d	1- Combined : contain estrogen 30 ug and gestagen in one phase , two or three taken for 21 day then 7 days pill free period then started In day 3-4 of menses 2- Progesterone only : taken continuously irrespective of cycle for women contraindicated to take COC	1- coitus interruptus : 2- The safe period 3- Prolonged lactation	1- Male & female condom : prevent STDs 2- Female diaphragm / & cervical cap : inserted 6 hours before intercourse 3- Spermicides (nonoxonyl 9) : applied 30 min before & failure rate 30 HWY if alone
Advantages	1- Single choice with long term protection 2- Does not affect lactation or interfere with sexual intercourse 3- Very low failure rate < 0.5 HWY	- Most effective , failure rate 0.1-1 HWY - excellent cycle control - no effect on fertility or sexual intercourse	Simple – readily accessible for no cost -	Easy to initiate & terminate / no systemic side effects / no effect on future fertility or lactation / some may prevent transmission of STDs
Disadvantages	1- Vaginal bleeding : post insertion bleeding (mild spontaneously stop few days after – profuse indicate either pathology , perforation , or contractions of expulsions) – Menorrhagia (due to increase PGL _ increased fibrinolytic activity / if mild treated by antifibrinolytics & NSAID / if severe exclude any organic pathology then you can remove and use progesterone release to induce atrophy) 2- Pelvic pain : during insertion (from forcible cervical dilatation – perforation – abnormal position) acute abdominal (in situ → abortion – PID // missed → perforation) 3- Infection : either chronic cervicitis or PID both increased with IUD in any of them treat infection then remove IUD 4- Vag discharge : watery from congestion/mucopurulent in chronic cervicitis 5- Expulsion : due to contractions during menses or misplacement at time of insertion / it can be complete or incomplete – both removed & reinserted 6- Perforation : mostly at time of insertion → sharp stabbing pain – persistent vaginal bleeding 7- Pregnancy on IUD : if threads visible removed / if not visible left in situ with more risk for septic abortion 8- Missed IUD : either threads indrawn – completely expelled or missed in peritoneal cavity in perforation	1- Spotting : due to inappropriate content of pills → shift for higher dose in the next cycle 2- Breakthrough bleeding : intermenstrual 3- Hypomenorrhea & amenorrhea 4- Thromboembolic disorders 5- Hypertension & DM 6- Impairment of liver functions 7- Depress lactation 8- Nausea & vomiting ? weight gain 9- Irritability & depressive disorders 10- Migraine headache 11- Acne worsen & chloasma resemble that of pregnancy 12- Decreased libido & breast engorgement 13- Vaginal discharge 14- Increased risk of cervical & breast cancer	1- Coitus : pre-ejaculatory fluid may contain sperms 2- In safe period : suitable only for intellectual couples – need regular cycles 3- In prolonged lactation : continuation of ovulation is unpredictable may be resumed at any time	Difficult to use consistently and correctly / may interrupt sexual activity / some require partner participation / less effective than other methods
Evaluation	• Reliable with low failure rate of < 0.5 HWY / require little motivation as it is single choice / no need for educated user / good for national programs in developing countries	The most effective method but needs daily use it also : tit DUB / postpone next cycle / ↓ risk of ovarian & endometrial cancer	Failure rate is high & efficacy is low	Fairly reliable with failure rate < 10 HWY
Contraindications	1- Pregnancy & undiagnosed vaginal bleeding 2- Uterine anomalies & uterine cavity pathology due to lack of proper insertion 3- History of PID (may be aggravated) / or ectopic pregnancy (risk increased)	Thrombophlebitis & DVT history / coronary heart & stroke / liver disease & liver malignancy / abnormal genital bleeding / suspected carcinoma of breast	No contraindications	No contraindications except spermicides may cause allergic vaginitis in some women

Premalignant lesions

	Endometrial hyperplasia	CIN	VAIN	VIN
Risk factors	Prolonged unopposed effect of estrogen as in : obesity – PCOS- HRT – infertility – nulliparity – late menopause	1. Early 1 st sexual intercourse 2. Multiple partners 3. HPV – HSV infections 4. Poor hygiene 5. Smoking 6. immunosuppression	Uncommon premalignant lesion in vagina may be associated with CIN VIN	They are 2 types : - Squamous Vin - Non Squamous (paget disease and melanoma)
Histology & Types	- Simple hyperplasia 1% - Complex hyperplasia without atypia 3% - Simple atypical hyperplasia 8% - Complex atypical HP 25%	- CIN I : basal 1/3 dysplastic (LSILs) - CIN II : basal 1/2 (HSILs) - CIN III : full thickness without invasion of BM		Squamous type has grades as CIN I & II & III
Clinical presentation	➢ Abnormal uterine bleeding especially perimenopausal ➢ Normal uterus or enlarged – may be myomata – or ovarian enlargement	Nearly asymptomatic and discovered accidentally during regular check up		➢ 1/3 asymptomatic but most presents with pruritus vulvae ➢ Signs : multicentric multifocal lesion with variable color white – black – red
Investigations	1. TVS : abnormal endometrial thickening 2. endometrial biopsy is the gold standard either by pipelle or full D&C with anaesthesia	➢ Pap smear : annually for high risk / every 3 years for females > 30 Y with 3 –ve samples / discontinued for > 70 ➢ Colposcopy directed biopsy from acetowhite areas or schiller iodine –ve areas ➢ Endocervical curettage when abnormal areas not visualized	- Pap smear : abnormal vaginal epithelial cells - Colposcopy guided biopsy :	Pain vulva with 5 % acetic acid and biopsy acetowhite areas
Treatment	1. cyclic oral progestin for 3-6 M : for patients without atypia 2. Hysterectomy for : failed hormonal therapy – complex atypical – postmenopausal patients	1- Low grade lesions CIN I : a. treat infection and repeat smear after 12 weeks b. if progress to high : destruction by ablation – cauterization or cryotherapy 2- High grade lesions II & III : Excision by a. Cold knife conization b. Loop electrosurgical excision procedure (LEEP) c. TAH in older patients	1- Local destruction ablation 2- Surgical excision 3- Topical chemotherapy	➢ Spontaneous regression ➢ Topical steroids ➢ Excisional biopsy if small lesion ➢ Skinning vulvectomy if wide lesion ➢ Close observation after manage

ولكن اشكر الاله الذي بفضلته بلغت من العلم منزل

لا تغتر بعلمك فإنك مهما بلغت من العلم جاهل

		UTERINE CARCINOMA	CHORIOCARCINOMA	CERVICAL CANCER
Risk factors		Prolonged unopposed effect of estrogen as in : obesity –PCOS- HRT –infertility – nulliparity – late menopause –estrogen producing ovarian tumors –genetic predisposition	Molar pregnancies – abortion – multiple pregnancies	Early 1 st sexual intercourse / Multiple partners / HPV – HSV infections / Poor hygiene / Smoking / immunosuppression
Incidence		The most common gynecologic malignancy mainly in postmenopausal women from 55 – 70 years	60% follow vesicular mole – 25% abortion - < 15% pregnancy – rarely nongestational	Decline in the last 3 decades commonly between 45-55 years
Pathology	Gross	1- localized type : nodule or polyp infundus or cornu 2- diffuse : diffuse endometrial thickening or multiple polyps	Friable hemorrhagic nodule arise from body invade endo and myometrium – ovaries shows multiple theca lutein cysts	Friable necrotic mass – deep ulcer – indurated nodule if SCC // if adenocarcinoma can give cervix barrel shaped appearance
	Microscopic	Adenocarcinoma – adenoacanthoma –adenosquamous – 1ry SCC – papillary serous carcinoma	Anaplastic cyto and syncytiotrophoblast with He and necrosis chorionic villi are absent	1-squamous cell carcinoma of ectocervix seen at portiovaginalis 2- adenocarcinoma of endocervix
Grading		- Grade 1 : <5% solid parts - grade II : 5-50 % solid parts - Grade III : > 50% solid parts with poor prognosis		- grade 1 : well differentiated cells - grade 2 : moderate differentiation - grade 3 : poor
Spread		1- Direct : to the rest of the endometrium / invasion to the myometrium 2- Lymphatic : fundus to para-aortic LN / cornu to inguinal / isthmus to paracervical 3- Vascular : late to intrapelvic organs or distant ones	It is famous for early and wide spread blood borne metastasis to lungs –vagina liver CNS / also direct spread to myometrium	1- Direct : to body of uterus – vagina – parametrium - bladder –rectum 2- Lymphatic : paracervical –obturatoexternal/ internal / common iliac – para-aortic LNs
Clinical presentation	Symptoms	1-postmenopausal bleeding is the commonest 2- Metrorrhagia: profuse –persistent and recurrent even after TTT 3- offensive discharge and menstrual cramps – deep pelvic pain	Persistent vaginal bleeding > 6 weeks after molar pregnancy or abortion or term pregnancy	1- contact bleeding is the commonest 2- metrorrhagia and postmenopausal bleeding 3- vaginal discharge 4- deep pelvic pain or loin
	Signs	✓ Bimanual examination : symmetrically enlarged uterus may be adnexal mass felt ✓ Speculum exam : to exclude cervical involvement or nodule or ulceration of cervix	Bimanual : symmetrically enlarged uterus soft in consistency / soft hemorrhagic nodule in vagina if metastasis to it occur	1- General : urinary manifestations in uretricobst 2- speculum : friable mass or ulcer if late obliterate vaginal fornices 3- PV : bleeds profusely on touch – later cervix become fixed and tender 4- Bimanual : uterus normal except if pyometra 5- PR : parametrial extension & uterosacral involvement
Investigations		1- TVS : show abnormal endometrial thickening especially postmenopausal if > 5mm for biopsy 2- Outpatient endometrial biopsy : may miss the malignancy if localized 3- EC : the gold standard dividing the sample into (endocervical –isthmus –ant & post walls – fundus-cornu)	Elevated levels of B-HCG after evacuation of molar TVS : mass extend to myometrium – bilateral theca lutein cysts / low pulsatility index by Doppler MRI for myometrial invasion / CT for metastasis / D&C not essential	1- Knife biopsy : from suspicious lesion if seen 2- colposcopy guided biopsy if no lesion seen 3- cone biopsy : if pap +ve for malignant cells and extent of lesion or seen by knife –laser –LEEP 4- EC : from endocervix and endometrium
Staging		✓ Stage I : in corpus : A) in endometrium / B) <inner 1/2 of myometrium C) > inner 1/2 of myometrium ✓ Stage II : to cervix but not outside uterus : A) in cervical glands B) in cervical stroma ✓ Stage III : outside uterus but not the true pelvis : A) serosa or ovaries or peritoneum B) upper vagina C) LNs ✓ Stage IV : other organs : A) bladder or rectum B) distant metastasis	1- Non metastatic chorio 2- Metastatic chorio a. Low risk b. High risk	✚ Stage I : in cervix : A1) invasion depth <5mm & width <7 A2) >5&7 B) to body ✚ Stage II : A) to upper 2/3 of vagina B) to parametrium ✚ Stage III : A) lower 1/3 of vagina B) to lateral pelvic wall ✚ Stage IV : a) bladder & rectum B) others
Management		1- Stage I : a & b : TAH-BSO / c : TAH-BSO followed by vaginal cuff radiotherapy and if grade 3 2- Stage II : Wertheim operation / Radio for unfit for surgery 3- Stage III & IV : palliative radio and chemotherapy 4- Radiotherapy used are : intracavity in uterus & vagina in III & IV and in II not fit for surgery // Brachytherapy : cylinders in vagina in Ic and grade 3 /// EBRT ; to tt LN extension 5- Chemotherapy : either hormonal (progestagen) for well-differentiated tumors with estrogen receptors or non hormonal (cisplatin Paclitaxel) for advanced EC	Chemotherapy is indicated in all cases either : - Single agent : methotrexate is drug of choice for non metastatic and metastatic low risk - Combination : MTX + Etoposide + Actinomycin D for metastatic high risk and cases resistant to MTX alone - Surgical (TAH) : elderly high risk Pts / resistant to combination therapy / complicated by severe HGE or perforation --- the surgery preceded and followed by chemotherapy	1- Stage Ia1 : TAH-BSO alone or conization 2- stage Ia2 & b : Wertheim's operation 3- Stage IIa : surgery is equal to radio 4- Stage IIb : radio is the 1 st line of TTT 5- Stage III & IV : radio and chemo as palliative 6- Weirtheim's (TAH-BSO +pelvic adenectomy + removal of parametrium and upper 3 cm of vagina) 7- Radiotherapy : either primary iib by EBRT or intracavitary or brachy /// or adjuvant
prognosis		Depends on : stage –type – grade – myometrial invasion – LN involvement - Stage 1 (G1-2) : 85% 5 year survival rate after surgery alone - Grade 3 has poorer prognosis - More depth in endometrium the poorer the prognosis - +ve peritoneal wash convert stage 1 to 3		IA : cure rate 95 % Ib : 5 year survival rate 85 % II : 5 year survival is 50% Iii & IV : 25 % and % % respectively

كلما ادبني الدهر اراني نقص عقلي *** واذا ما زددت علما زادني علما بجهلي

Non Neoplastic ovarian cysts

	<i>Follicular cyst</i>	<i>Corpus luteum cyst</i>	<i>Theca lutein cyst</i>	<i>Endometriotic cyst</i>	<i>Inflammatory</i>
Incidence	The commonest of all functional cysts mainly occurring at childbearing period & perimenopause	2nd common – childbearing and early pregnancy)	Increase lately due to increase in use of induction of ovulation	Not uncommon especially with infertility & pelvic endometriosis	➤ Tubo-ovarian cyst or tubo-ovarian abscess ➤ Infection reach ovary by lymphatics or near by infected organ ➤ Bilateral ➤ Pt come with history of : ○ Recent delivery or abortion ○ Recent surgical pelvic surgery ○ IUD insertion ➤ Treatment :parental antibiotics regimen (ofloxacin 400mg Iv / 12 H + metronidazole 500 mg IV / 12 H)
Aetiology	1-Cystic overdistention of an atretic follicle 2-Dominant Graffian failed to rupture 3-So it is commonly encountered in Metropathia hemorrhagica & PCOS & fibroids – endometriosis	Excessive hemorrhage in corpus luteum in stage of vascularization	OVARIAN hyperstimulation by 1- Natural HCG : vesicular mole – choriocarcinoma – multifetal preg) 2- Iatrogenic : HMG – HCG injections for induction	Hemorrhagic cysts of ovary lined by endometrial tissue (glands & stroma) blood accumulate during menses and serous content absorbed leaving RBC's give chochalte appearance	
Fate	Spontaneous regression and complete resolution within few weeks unless complicated by rupture – hemorrhage – torsion	The same	Spontaneous regression and complete resolution when HCG falls		
Pathology	✚ Unilateral – unilocular single (3-7 cm) contain clear fluid ✚ Thin wall lined by granulose cells ✚ Secrete estrogen causing menstrual disturbances	✚ Unilateral – unilocular single (3-7 cm) contain blood ✚ Thin wall lined by luteinized granulosa cells ✚ Secrete progesterone causing menstrual disturbances	- Multiple –bilateral –bluish – thin walled – contain clear fluid – may reach > 20 cm - Lined by luteinized theca cells	Thick wall – surrounded by dense adhesions (from reaped leakage of cyst) so rarely undergo torsion	Germinal inclusion ➤ Microscopic cysts from invagination of germinal epithelium in the substance of the ovary ➤ Considered forerunners of epithelial cancers
Symptoms	✚ Asymptomatic ✚ Menstrual disturbance (delayed menses – irregular bleeding) ✚ Pain if large –rapidly growing – complicated	✚ Asymptomatic in the majority ✚ Menstrual disturbance (delayed menses – irregular bleeding) ✚ Acute lower abdominal pain if complicated	➤ History of vesicular mole or induction of ovulation ➤ Lower abdominal & pelvic pain	History of infertility especially if pelvic endometriosis – Dysmenorrhea & chronic pelvic pain increase at time of menses	
Signs	1- Abdominal examination : tenderness at one ovarian point 2- Bimanual : tenderness at one vaginal fornices	Same signs	➤ If large can be felt suprapubically ➤ If small can be felt on PV at vaginal fornices with pain & tenderness on palpation	Bimanual Exam : adnexal tenderness & fullness felt at vaginal fornices If large can be felt abdominally	
Investigations	TVS-TAS : is the gold standard show the characters of the cyst with no septa or internal echos	TVS : cyst is echolucent filled with blood that appear as fine particles in clear fluid - CBC – HCG for DD	TVS : echolucent thin wall cyst filled clear fluid + high HCG	- TAS-TVS - Laparoscopy especially if infertile - Ca 125 level is elevated	
DD	1- Simple serous cystadenoma (lined by low columnar epithelium) 2- Iliac fossa pain (appendicitis – uretric stones)	1- Abortion & metropathia same in bleeding 2- Follicular cyst & simple serous cyst 3- Pain in rt iliac fossa as ectopic – appendicitis			
Management	• Conservative till resolution by follow up by reaped US • Combined OCP accelerate resolution • Ovarian cystectomy (if ruptured or persistent – or increase in size (to exclude malignancy) conserve ovary	• Conservative till resolution by follow up by reaped US • Ovarian cystectomy (if ruptured or persistent – or increase in size (to exclude malignancy) conserve ovary	➤ Expectant manage : removal of source of HCG ➤ Laparotomy is avoided except if complicated	➤ Very small : IM depot injections of GnRH agonists ➤ Small endometrioma < 3 cm : aspirated, irrigated and wall vaporized laparoscopically ➤ Large 3-5 cm wall removed laparoscopically & > 5 cm by laparotomy	

قال رسول الله صلى الله عليه وسلم : إن الله يحب العبد المحترف

Ovarian Neoplasms

Benign tumors	Epithelial		Incidence	Gross & cut section	Microscopic	Complications	Hormonal activity
		Serous cystadenoma	Commonest benign ovarian neoplasm (10-15 % ovary T)	Simple type : unilocular thin walled – thin clear serous fluid /// the papillary type contain papillary growths	Lined by cuboidal cells ciliated & non ciliated (tubal epithelium)	Simple : lowest malignant potential but papillary highest malignant (50%)	No hormonal activity
		Mucinouscystadenoma	2 nd common benign ovarian neoplasm	Unilateral – bluish color – multilocular – contain thick mucin material – reach huge sizes (may fill abdomen)	Lined by tall columnar epithelium rich in goblet cells similar to endocervical epithelium	Very low malignant potentiality (< 5%) Pseudomyxomatous peritonitis	No Known hormonal activity
		Brenner tumor	Rare (1-2 %) of ovarian neoplasm	Solid – small to moderate – incidental discovery	Epithelial cell nests with coffee bean nucleus	May be borderline or malignant	Occasionally secrete estrogen causing vaginal bleeding
	Germ cell	Benign cystic teratoma	The commonest germ cell tumor (50% of ovary neoplasm in females < 20)	Bilateral – moderate size – has long pedicle // mostly unilocular containing a mamilla & variable contents (hair – skin- cartilage in sebaceous material)	Lined by stratified squamous epithelium with sebaceous glands	Very low malignant potentiality < 1 % (squamous cell carcinoma)	
		Stumooovarii	Rare	Monodermalteratoma	Hormonally active thyroid tissue	5-10 % develop into cancer	5% only capable of producing thyroid causing symptoms
		Gonadoblastoma	Rare	Benign solid	Germ cells mixed with granulosa & sertoli	50 % predispose to dysgerminoma	
	sex cord	Fibroma	Rare tumor	Solid –unilateral – long pedicle – lobulated	Cells of fibroblasts	Meig's syndrome	
		Thecoma	Rare in postmenopausal	Solid unilateral	Cells resemble theca interna cells	Endometrial hyperplasia	Many produce estrogen
malignant tumors	Epithelial	Serous cystadenocarcinoma	Epithelial ovarian cancers are the commonest malignant ovarian neoplasms (60-70 % ovarian cancers) – older age > 50 – poor prognosis / has tumor marker CA125 – chemosensitive	Bilateral 50 % - has solid & cystic components with extensive hemorrhage & necrosis	Adenocarcinoma of serous type – Psammoma bodies are common	Risk factors for epithelial cancers : Increasing age (mean age is 59) Nulliparity & infertility White race Prior history of endometrial & breast cancer or family history	
		Mucinous cystadenocarcinoma		Bilateral in 20% - multilocular – contain mucinous fluid – huge size	Adenocarcinoma of mucinous type well or moderate or poorly differentiated		
		Endometrioid tumors		In 30 % cases coexistent 2 nd 1 st in endometrium	Adenocarcinoma		
		Borderline epithelial tumors		Low malignant – could be serous or mucinous	Cellular features of malignancy but no invasion of stroma		
	Germ cell	Dysgerminoma	Commonest malignant germ cell tumor 1-3 % – in young females 10-30 year	Solid –small to moderate –bilateral in 10 % - grayish with lobulated surface – characterized by early lymphatic spread	Germ cells arranged in alveoli separated by fibrous septa-lymphocytic infiltration common	Features of malignant germ cell tumors : Affect young females Has tumor markers Associated with abnormal gonads Radiosensitive and chemo Conservative surgery can be done (low malignant tumors)	5% of cases occur in abnormal gonads / LDH considered tumor marker
		Endodermal sinus T	2 nd common germ cell only 1% of ovarian cancers – young women (19y)	Small solid tumor unilateral	Shiller –duval bodies (cystic spaces inside which glomerulus like structure		Serum AFP used as tumor marker / teratoma are found in 20 %
		Choriocarcinoma	Very rare	Unilateral solid tumor	Malignant cyto&syncytio		Secrete HCG – cause pseudo puberty
		Malignant teratoma	Rare in children under 15 Y	Unilateral solid tumor	Immature neural , epithelial & mesenchymal tissue		Secrete hcg – AFP
	sex cord	Granulosa cell T	5% of ovarian malignancies with good prognosis	Unilateral solid yellowish	Call-exner bodies are pathognomonic in 50% cases (spaces surrounded by granulosa cells in rosette shape		75% secrete estrogen others secrete inhibin – 50 % are associated with EH – 5% with endometrial carcinoma
		Sertoli-Leydig cell T	Rarest of all ovarian tumors <0.2% / low grade malignancy – in young females (20-30)	Unilateral solid small or moderate in size	Sertoli or Leydig cells accompanied by stroma derived fibroblasts		Androgenic tumors in 75% will cause defeminization then virilizing effect // rarely some produce estrogen

فطم الموت في أمر حقير***كطم الموت في أمر عظيم

إذا غمرت في شرف مروم***فلا تقنع بما دون النجوم

Ovarian Neoplasms 2

	Benign ovarian Neoplasm							Malignant ovarian Neoplasm
Symptoms	1- Asymptomatic : discovered only accidentally during US 2- Abdominal swelling felt by patient if large tumor 3- Lower abdominal pain either acute if complicated or chronic dull aching pain in large sized tumors as Mucinous cystadenoma 4- Pressure symptoms : if huge or incarcerated : either abdominal (epigastric pain – dyspnea) or pelvic (frequency or retention) 5- Menstrual disorders : only if functional as theca cell tumor							1- Asymptomatic early 2- Abdominal swelling 3- Dull aching pelvic pain & heaviness 4- Pressure symptoms : dyspepsia – indigestion – frequency – constipation 5- DUB : if estrogen producing
Signs	1- Small tumor : only detected by bimanual examination as a mass rounded smooth cystic mobile separate from uterus 2- Large tumor : by abdominal examination : a. Inspection : symmetrical abdominal enlargement b. Palpation : abdominal mass smooth or lobulated tense and commonly mobile from above downwards c. Percussion : central dullness – resonant flanks except if ascites associated (shifting dullness) 3- Ovarian cachexia could develop in rapidly growing tumors							Feature suggesting malignancy : 1- History : extremes of age – rapid wt loss – rapid growth of tumor – family history – feminizing & virilizing effects 2- General examination : Malignant cachexia – pleural effusion – associated breast mass – unilateral LL edema – palpable supraclavicular LNs 3- Abdominal : skin shows pseudorange – tumor solid fixed bilateral – ascites 4- Pelvic : nodules in Douglas pouch – bilateral solid adnexal mass – frozen pelvis 5- At laparotomy : ascites – nodules on omentum – peritoneal nodules – bilaterality fixation invasion of capsule – variable consistency – papillae & adhesions
Investigations	1- U/S : help in a. Diagnose ovarian origin – b. Differentiate benign from malignant (heterogeneous echogenicity – low resistance Doppler – ascites) c. Laterality of tumor and size consistency / uni or multilocular 2- Tumor markers : CA125 in epithelial cancer & CA19-19 with mucinous carcinoma 3- Laparoscopy : to differentiate ovarian cysts from tubo-ovarian cystic masses /// solid ovarian fibroma from pedunculated SSM 4- IVP : to delineate course of ureter							- US : TAS-TVS is the gold standard - chest xray : pleural effusion & secondaries - X-ray abdomen calcification - TC-MRI : spread to liver + LNs - Barium meal & enema : for 1ry cancer colon or stomach - GI endoscopy : same - IVP : course of ureter & backpressure on kidney - Paracentesis : for cytologic examination - Endometrial curettage : in cases of DUB - Tumor markers : CA125 in epithelial cancers – HCG in choriocarcinoma – LDH in dysgerminoma – alpha fetoprotein in EST
Complications / staging		Torsion	HGE	Infection	Rupture	incarceration	Malignant	➤ Stage I : confined to ovary : (a) one ovary with intact capsule – no tumor deposits on external surface – no ascites (b) two ovaries with same characters (c) Ia or Ib with Ascites +ve peritoneal wash – ruptured capsule – deposits on external surface ➤ Stage II : pelvic extension : (a) to uterus & tube (B) other pelvic tissues (c) IIa or IIb + previous criteria in Ic ➤ Stage III : with peritoneal implants – or +ve retroperitoneal or inguinal nodes : (a) grossly limited to pelvis with –ve nodes (9 microscopic implants) - (b) implants <2 cm on abdominal peritoneal surface nodes –ve (c) implants >2 cm nodes +ve ➤ Stage IV : distant metastasis : liver lung etc ... ➤ Staging here can only be reached surgically by exploratory Laparotomy
	Predisposing	Moderate size + long pedicle / free mobility / pregnant & puerperium	Torsion / trauma / during pregnancy	Puerperium / infected organ /	Torsion or Hge / trauma during labor or rough PV	Large size impacted in Douglas pouch	Higher in solid than cystic	
	C/P	Acute abdomen	Acute abdomen	General P of infection	Acute abdomen -	Pressure symptoms		
	TTT	Ovariectomy in absence of healthy tissue / or ovarian cystectomy	Shock manage + Ovariectomy	Antibiotics – ovariectomy via laparotomy	Sedatives – resuscitation – ovariectomy – peritoneal lavage	Ovariectomy or cystectomy		
Management	1- Young female : a. Small cyst : ovarian cystectomy (enucleation with ovarian preservation) laparoscopically except dermoid cyst removed by laparotomy due to risk of dissemination of irritant contents b. Large cyst : Oophorectomy (removal of cyst together with the ovary) by laparotomy due to risk of dissemination – malignancy – absence of healthy ovarian tissue 2- Older female : non desirous for further fertility : TAH-BSO to prevent against development of ovarian cancer							➤ TAH-BSO and infracolic omentectomy : standard TTT for stages I-IIa completed by peritoneal wash & LN sampling ➤ Unilateral salpingo-oophorectomy only in Ia + young patient + low malignant tumor (malignant germ cells – malignant sex cord – border line epithelial) ➤ Initial debulking : (TAH-BSO + omentectomy + excision of pelvic masses & peritoneal deposits > 1-2 cm + bowel resection if needed for rest of stages from IIb ➤ Interval Debulking : chemotherapy prior to debulking to reduce size of tumor ➤ 2nd look surgery : to assess residual tumor in abdominal cavity after operation & chemo / done only these days for patient with –ve imaging and rising tumor markers - Chemotherapy : in stage I-IIa used only if +ve peritoneal or ruptured capsule – in stages II-IV used either as adjuvant after surgery if resectable tumor – or palliative - Radiotherapy : little place in epithelial – can be used as adjuvant in germ cell tumors
Prognosis								• Factors affect prognosis : histopathologic type (epithelial worst) – histologic grading (well or poor differentiation) – staging – response of tumor to adjuvant therapy • 5 year survival rate is : 90% in stage I – 80% in stage II – 15-20 % in stage III – 5% in stage IV

إنما تنجح الفكرة إذا قوي الإيمان بها ، وتوفر الإخلاص في سبيلها ، وازدادت الحماسة لها ، ووجد الاستعداد الذي يحمل على التضحية والعمل لتحقيقها . وتكاد تكون هذه الأركان الأربعة : الإيمان ، والإخلاص ، والحماسة ، والعمل من خصائص الشباب . لأن أساس الإيمان القلب الذكي ، وأساس الإخلاص الفؤاد النقي ، وأساس الحماسة الشعور القوي ، وأساس العمل العزم القوي ، وهذه كلها لا تكون إلا للشباب . ومن هنا كان الشباب قديما وحديثا في كل أمة عماد نهضتها ، وفي كل نهضة سر قوتها ، وفي كل فكرة حامل رايتها . (الإمام الشهيد حسن البنا)

Vaginitis

	Bacterial vaginosis	Candida vaginitis	Trichomonas vaginalis	Childhood vaginitis	Atrophic vaginitis
Incidence	the <u>commonest</u> cause of bacterial vaginal infection – 50% of women attending for STDs	<u>30%</u> of cases with vulvovaginitis – considered STD	3 rd most common cause of vaginitis (<u>25%</u> of cases) – multifocal infection (STD)	<u>Rare</u> but occur due (weak epithelium – low vaginal PH)	Occur in <u>postmenopausal</u> women – breast feeding women
Risk factors	2 nd trimester abortion – premature labour - PID – endometritis	1- changes in PH to <u>more acidic</u> pregnancy – OCP- spermicidal – abuse of douching 2- ↓ host immunity (<u>Diabetes</u>) 3- Long use of <u>antibiotics</u>		1- Poor hygiene 2- Foreign body insertion 3- Pinworms (<u>enterobiusvermicularis</u>)	- Loss thickness of vaginal epithelium - Decreased estrogen levels so low glycogen content and alkaline PH
Causative organism	<u>Gardnerellavaginalis</u> – Bacteroid species – mycoplasma hominis (unexplained increase in vaginal anaerobes due to decrease in vaginal PH) – not sexually transmitted	- <u>Candida albicans</u> : normal inhabitant of bowel – peri-anal region – 30% of female vagina - <u>Non albicans</u> : candida tropicalis – torulopsisglabrata 20% cases resistant to usual TTT	<u>Trichomonasvaginalis</u> : flagellated protozoon larger than leucocytes	E-coli – streptococci – <u>gonococci</u> – staph	- Leucorrhea – <u>pruritis</u> – vaginal burning - By speculum : <u>atrophic vagina</u> – inflamed walls – discharge
Clinical picture	50% asymptomatic – the main symptom : vaginal discharge (profuse – <u>non irritant</u> – malodorous – <u>thin- yellowish white or whitish</u> adherent to vaginal walls- <u>fishy amine smell</u>)	- <u>Intense pruritis</u> – vaginal burning (dyspareunia) - vaginal discharge (<u>cottage cheese</u> dysuria - Vulva red swollen /vagina : patches of adherent cheesy discharge	1- 25-50 % are asypmtomatic 2- Vaginal discharge : <u>copious – frothy offensive</u> 3- Pruritis – vulvitis 4- <u>Strauberry spots</u> : on speculum examination (punctate hemorrhage on vagina – cervix)	- Vaginal discharge : <u>purulent foul smell</u> - Pruritisvulvae - Dysuria	
Investigations	1- <u>saline wet mount preparation</u> : clue cells (epithelial cells coated by bacteriaobscuring its borders) 2- <u>10% KOH</u> : on fresh sample of vaginal secretions give fishy odour 3- <u>PH</u> : > 4.5	1- <u>Wet mount examination</u> with saline & 10% KOH : hyphae – pseudohyphae with budding yeasts 2- <u>PH</u> : < 4.5 3- <u>Swab& culture</u> not necessary	▪ <u>Saline wet mount preparation</u> : numerous leucocytes – flagellated trichomonads ▪ <u>PH</u> : weak acidic (5- 6) ▪ <u>PAP smear</u> : to exclude cervical neoplasia ▪ Culture rarely	1- <u>Cultured sensitivity</u> of discharge 2- <u>US</u> or X-ray to detect foreign body 3- Investigations for enterobius – oxyuris	Infection not usually identified by wet mount preparation Vaginal PH is low < 4.5
Treatment	<u>Systemic</u> : Metronidazole 500 mg oral twice for 7 days / clindamycin same dose <u>Local</u> : Metronidazole gel 0.75% or clindamycin cream 2% one full applicator intravaginally once for 5 days During Pregnancy : clindamycin used but metronidazole only from 2 nd trimester	1- <u>Intravaginal antifungal</u> : clotrimazole 1% cream (5g - for 7 days) – Nystatin 100,000 unit vaginal tab for 14 day 2- <u>oral</u> : fluconazole single oral dose 150mg / ketoconazole 200 mg twice for 5 days for recurrent ➢ <u>During pregnancy</u> : intravaginaal TTT is safer ➢ <u>Recurrent</u> cases : due to (non-albicans strains – DM – infected male partner)	- <u>Metronidazole</u> either 1g single oral dose – or 500 mg twice for 7 days - Intravaginal therapy isnot so effective (multifocal) - <u>During Pregnancy</u> : metro-nidazole from 2 nd trimester - <u>Male partner</u> should be treated - <u>Recurrent</u> : ssearch for other STDs	1- <u>Antiseptics</u> 2- Systemic <u>antibiotics</u> 3- Treatment of worms 4- Removal of foreign body if found	- <u>Intravaginal estrogen</u> cream every night for 2 weeks then once weekly - <u>Systemic HRT</u> : to treat other symptoms of menopause

إنك بحاجة لأن تكف عن الحياة داخل ذكريات الماضي. إنك بحاجة لأن تتعلم الصفح وغض الطرف كي تواصل مشوار الحياة .

إنك بحاجة لأن تكون مستمعاً جيداً حتى تستخلص أفضل ما لدى الآخرين من خبرة . إنك بحاجة لأن تأخذ نفسك على محمل الجد ، ولكن ليس لدرجة أن تلزم نفسك أن تكون كاملاً طوال الوقت ، أو ألا تستطيع التعرف على أخطائك وجوانب ضعفك .

ديفيد فيسكوت (خبير تنمية بشرية)

Female genital tract infections

	PID	Chronic salpingitis	Acute endocervicitis	Chronic cervicitis	Cervical erosion
Aetiology	Organisms : Neisseria gonorrhea is the most common cause / chlamydia trachomatis : in 20-40% / endogenous bacteria : E-coli- strept –klebsella Routes of infection : ascending from endocervicitis- direct from infected organ – lymphatic from purulent infection – rarely blood born	1- Sequelae of acute PID 2- TB start as chronic infection	Sexually transmitted pathogen (neisseria gonorrhea – chlamydia- trichomonas) - Staph or strept	Sequel of acute cervicitis ▪ Symptoms o Vaginal discharge o Dyspareunia o Backache o Dysmenorrhea o Contact bleeding o Infertility o Frequency of micturition ▪ Signs : o Mucopurulent offensive discharge o Cervical erosion o Chronic hypertrophic cervicitis o Mucous polyp (hyperplasia of epithelium) o Nabothian cyst (obstruction of glandular ducts	Bright red area around external os due to replacement of stratified sq epithelium of ectocervix by columnar epithelium of endocervix -chronic cervicitis -congenital erosion -hormonal erosion (excess estrogen with OCP) IN chronic : infected discharge erode epithelium at external os and columnar epithelium cover area then stratified grow beneath 1- Vaginal discharge : excessive mucoid 2- Contact bleeding 3- Symptoms of chronic cervicitis
Predisposing factors	1- Young sexually active female / Multiple sexual partners / After menses due to retrograde menses / Sexual intercourse facilitate ascending infection/ Iatrogenic as : IUD – D&C operation – HSG		IUD insertion - - post abortive – D&C procedure – part of purulent sepsis		
Pathology	1- Endosalpingitis : mucosal destruction & cilia – catarrhal or suppurative 3- Interstitial & perisalpingitis : in muscosa & serosa 4- Oophoritis : micro-abscesses on ovarian surface 5- Pelvic peritonitis from direct extension 6- Chronic PID	1- Hydrosalpinx : follows acute catarrhal 2- Pyosalpinx : acute suppurative 3- Chronic interstitial salpingitis 4- Tubo-ovarian cyst 5- Tubo-ovarian abscess			
Symptoms	➤ Recent surgical intervention : D&C or IUD or delivery – abortion in young active female ➤ Acute lower abdominal pain ➤ Increased vaginal discharge ➤ Picture of infection : fever – headache – malaise = nausea – vomiting	➤ History of acute PID ➤ Pain : lower abdominal / pelvic / lower backache / pelvic congestive symptoms (discharge / menorrhagia) / Dysmenorrhea / dyspareunia ➤ Infertility : tubo-peritoneal factor	1- Mucopurulent vaginal discharge 2- Dyspareunia 3- Mid fever 4- Backache		
Signs	➤ Abdominal Exam : lower abdominal tenderness ➤ Bimanual Exam : adnexal tenderness – cervical motion tenderness	Adnexal swelling bilateral – tense – cystic – tender fixed with fixed RVF by adhesions – chronic cervicitis	- Cervix red swollen – with discharge - Tenderness on moving it		Vaginal exam : contact bleeding Speculum : flat, papillary or follicular erosion
Investigations	▪ Examination of discharge : by gram stain for gonorrhea – search for chlamydial & gonorrheal antibodies ▪ CBC & ESR : leukocytosis & increased ESR ▪ US : mostly normal in acute except if tubo-ovarian abscess – also to exclude ectopic & myomata ▪ Laparoscopy : gold standard (tubal hyperemia – edema – purulent exudate) done to confirm or in poor response to TTT after 72 H ▪ Culdocentesis : aspiration of fluid from Douglas pouch for culture & sensitivity ▪ Tests for STDs	▪ Pelvic US : detect adnexal mass ▪ Laparoscopy : especially with infertility – differentiate it from endometriosis ▪ Investigations of TB ▪ CBC & ESR : leukocytosis & increased ESR ▪ HSG : show dilated blocked tube – done after subsidence of acute phase ▪ Immunofluorescent antibody for chlamydia ▪ CT : in some cases	Culture & sensitivity of discharge	1- Culture & sensitivity of discharge 2- Exclusion of malignancy by vag & cervical smears	Vaginal and cervical smears to exclude malignancy
DD	Ectopic pregnancy / ruptured ovarian cyst / degenerating myoma / Endometriosis / inflammatory bowel disease	Pelvic endometriosis – pelvic malignancy			
Treatment	1- Rest & analgesics antipyretics 2- Empiric therapy of antibiotics : a. Mild to moderate cases : Broad spectrum antibiotics orally (ofloxacin 400mg once orally for 14 day + Metronidazole 500 mg twice orally for 14 day) b. Severe cases : parenteral antibiotics regimen (ofloxacin 400mg IV / 12 H + metronidazole 500 mg IV / 12 H) c. Tubo-ovarian abscess : same as severe or Ampicillin 2g iv / 4 H + gentamycin + metronidazole 500 IV / 8 3- Surgical ttt : severe cases and abscess formation either drainage of abscess or unilateral salpingo-oophorectomy	1- Conservative : Antibiotics for acute exacerbations – glycerine ethyl for pelvic congestion 2- Surgical : a. Salpingostomy : infertility due to hydrosalpinx of small size – no recurrent acute exacerbations b. Salpingectomy : frequent acute exacerbations – large swelling c. Hysterectomy : if both tubes affected d. Aspiration & drainage for cystic swelling e. ICSI & IVF for ttt of infertility	Broad spectrum antibiotics – it can be complicated by : 1- Turning into chronic infection due to branching of endocervical glands 2- Spread of infection to be PID	1- Oral & vaginal antibiotics 2- Cervical cauterization in case of erosion	1- Hormonal erosion : no ttt except prolonged 2- Antibiotics for chronic cervicitis 3- Cauterization : electrocautery – cryocautery – laser vaporization – Endocoagulation

Whatever doesn't kill you really does make you stronger.

Time heals almost everything. Give time, time.

	TB	Bilharziasis	Syphilis	Gonorrhea	Chlamydia	HSV	HPV	HIV
Organism	Tuberculosis bacilli		Treponema palladium	Neisseria gonorrhea	Chlamydia trachomatis	Herpes simplex II	DNA virus	Retovirus I-II
Route of infection	Blood – lymphatics – direct extension from peritoneum - infected semen	Vascular communication between vaginal & vaginal venous plexus	Sexually transmitted	Sexual – infected towels or toilet – baby during labour	Sexual transmission – perinatal trans	Sexual – t one born during vaginal delivery	Sexual – neonatal infection	Sexual - - blood products – contaminated syringes – tattooing – perinatal
Pathology	Tubes show : sausage shaped – surrounding adhesion – tubercles on surface – fimbriae not indrawn	Deposition of ova : - Sandy patches - Polyp formation - Ulceration - Fibrosis						
Clinical picture	1- Infertility : 2- Menstrual disturbances 3- Discharge 4- Pain Signs : 1- Tender fixed adnexal swelling 2- Nodules in Douglas pouch 3- TB peritonitis 4- TB cervical ulcers	- Vulva : multiple sessile papillomata > ulcers - Vagina : any of 4 lesions found - Cervix : papillomata more common - Tubes / ovaries : fibrosis - Uterus : very rarely	1- 1ry syphilis : chancre on vulva or cervix raised papule soon ulcerate + enlarged inguinal LNs 2- 2ry syphilis : skin rash – mucous patches – condylomata lata – generalized LN 3- 3ry : gumma – CVS affection – neurosyphilis	1- Urethra : frequency & burning 2- Endocervix : backache & discharge 3- Bartholin gland : tender – red edema 4- Salpingo-oophoritis 5- Transient endometritis 6- Systemic infection : arthritis – iridocyclitis 7- No vag infection	1- Endocervicitis : asymptomatic 2- Salpingitis : ectopic or infertility 3- Urethritis : frequency & dysuria 4- Perinatal infection : conjunctivitis – pneumonia	- 1st attack : multiple small painful vesicles rapidly ulcerates leaving shallow painful ulcers - Recurrent attacks : milder than 1 st attack due to reactivation of virus	1- Condylomata accuminata : cauliflower like lesions on vulva 2- Dysplastic changes of cervix especially serotypes 16-18	1- Initial infection : mononucleosis like symptoms 2- Incubation : long variable 5-10 years 3- AIDS related complex : fever – diarrhea for > 1 m- weight loss all not explained – generalized LN 4- AIDS : immunosuppression (Kaposi sarcoma – opportunistic)
Investigations	1- PEB : saline preserved – Zeil-nelsen stained – Lovenstein Jensen cultured 2- HSG : Dwarf uterus – beading of tubes 3- Laprosocopy : 4- CBC : Lymphocytosis ↑ ESR 5- Tuberculin test 6- Chest x-ray	Urine – stool analysis To prove bilharziasis + picture of lesions	1) Smear from lesion : dark ground illumination 2) Biopsy : show syphilitic granulation tissue 3) Serological tests : +ve in 2ry stage : a. Non specific : wasserman reaction & VDRL b. Specific : TPI / FTA-abs/ Microhemagglutination assay	1- smear & culture of discharge at thyr martin medium 2- complement fixation test +ve after 6 weeks	1- tissue culture : McCoy's cells 2- complement fixation 3- pap smear of cervix	Complications 1- 1ry attack in pregnancy lead to abortion 2- ROM > 4 H cause infection of fetus lead to its death 3- It is linked to cervical neoplasia and cancer	- PAP smear : koilocytes (exfoliated squamous cells wrinkled & pyknotic) - Coloposcopy : flat small lesions with vascular punctations	1- Detection of viral antibodies by ELISA – western blot technique 2- CD4 / CD8 ratio depressed 3- Viral culture
Treatment	1- Medical : combination of 2 antituberculous for at least 6 M INH – rifampicin 2- Surgical : hysterectomy in large cases preceded & followed by ATB	Antibilharzial : praziquantel Antibiotics for 2ry bacterial infection	Procaine penicillin : 600,000 U IM daily for 2 W or Benzathine penicillin : 2.4 million unit . Erythromycin for penicillin sensitive	Procaine penicillin single dose 4.8 million units IM combined by 1 gm of probenecid orally	Antibiotics prophylaxis to new born Tetracycline 500 mg / 6 H for 1-2 w	- Analgesics - Acyclovir orally 200 mg 5 times for 10 days or locally - Local genital violet 1% - CS for pregnant with infection - Cervical smear to rule out dysplasia	- Condylomata lata : painting by podophyllin resin 25 % in paraffin oil – cryocautery – electro- laser – 5 fluorouracil - Precancerous lesions : cryo- laser – or surgical removal	No effective ttt – Azidothymidine used to prolong survival

انصح نفسك بالشك في رغباتها، وانصح عقلك بالحذر من خطراته، وانصح جسمك بالشك في شهواته، و انصح مالك بالحكمة في إنفاقه، وانصح علمك بإدانة النظر في مصادره. (مصطفى السباعي)

Incontinence & fistulae

	Stress UI	Urge UI	Vesicovaginal fistula	Ureterovaginal	Urethral F	Rectovaginal F
Definition	Involuntary escape of urine through urethra during increased IAP during cough – sneezing – straining	Leakage of urine from urethra before starting to void	Abnormal communications between bladder & vagina	Between ureter & vagina	Rare	
Aetiology	1- Childbirth trauma : damage pelvic floor muscles & fascia 2- Postmenopausal weakness : atrophy of fascia 3- Fibrosis of urethra & periurethral support from bladder neck surgery 4- Congenital weakness in pelvic support + chronic increase in IAP (obesity – constipation – chronic cough)	1) Idiopathic 2) Local bladder irritation : stone infection, ulcer , polyp 3) Neuropathy : DM , spinal cord lesions	1- Obstetric trauma : either necrotic VVF (obstructed labor) or traumatic (instruments) 2- Pelvic surgery hysterectomy especially with adhesions – pelvic malignancy surgery - CS 3- Pelvic malignancy : 2% direct 4- Pelvic radiation : 6 %	Injury of ureter during gynecological operation as hysterectomy – wertheim's – anterior colporrhaphy difficult delivery by CS	Obstetric childbirth trauma / surgical trauma as correction of SUI	1- Traumatic : complete perineal tear / post colpoperi 2- Inflammatory : perianal abscess 3- Malignant : extensio 4- Irradiation : 5- Congenital : rare
Symptoms	Involuntary leakage of urine during coughing – may be associated prolapse	Urgency , frequency , nocturia	-Complete incontinence : is the main presentation (continuous – no desire) in low or large -Partial : if high or small -Cystitis – vulvitis – pruritis -History after labor – radio -Feel fistula if large or fibrosis around it if small in palpation -Inspection by sims' speculum	Incomplete incontinence (bladder fill empties normal 1- Inspection : small highly situated fistula 2- Methylene blue test to differentiate it from vesicovaginal fistula	Continent all through but complain of void of double stream of urine during voiding / post micturition vaginal dribbling	- Large fistula : incontinence of feces & flatus + 2ry vaginitis (vag discharge) - Small : escape of flatus from vagina
Signs	1- cough stress test : elicit urine escape to see 2- Bonney's test : differentiate between SUI due to bladder neck descent or due to weakness in bladder neck 3- Examination for associated prolapse 4- Q-tip test : detect descent & mobility of urethrovaginal junction	Same test of SUI to exclude SUI				
Investigations	1- Urodynamic studies : Cystometry : (leakage of urine during increase IAP in absence of detrusor contractions) – urethral pressure profile ⊕ increased intravesical P over intraurethral 2- Midstream urine specimen for culture 3- Postvoiding residual urine PVR increase 4- IVP – cystoscopy – urethroscopy	1- Cystometry : detrusor overactivity as detrusor pressure filling > 15 cm/H ₂ O 2- Urine culture & sensitivity may reveal cystitis as a cause 3- IVP – cystoscopy – urethroscopy	1- Retrograde coloured dye injection – inspection & 3 gauze test 2- IVP ; for course & ureteric F 3- Cystoscopy & IV injection of indigo – carmine dye / urethroscopy	Cystoscopy show normal bladder with ureteric efflux on one side – failure of passage of ureteric catheter on affected side	Urethral catheter – urethroscopy	
management	1- Conservative : a. Pelvic floor muscle exercise : kegel exercise or passive electrical stimulation b. Scheduled voiding & avoid complete filling c. Estrogen therapy : local vaginal cream in menopausal d. Alphasymphathomimetics to decrease IVP e. Pessary ttt : temporary ttt for sui with prolapse 2- Surgical : a. Colposuspension operation : suspension of upper vagina & upper 1/3 of urethra to Cooper's ligament by abdominal approach (standard operation – highest success rate) b. Sling operation : suspension of vesicourethral junction to anterior abdominal wall by rectus sheath – sutures – tension free vaginal tape (mesh like tape) c. Kelly's plication with anterior colporrhaphy plication of paraurethral fascia vaginally – then ant colporrhaphy is done by success rate 60-70 % d. Periurethral injection of collagen : short term ttt success after 5 years < 30 %	1- Bladder training exercise : increase interval between voids difficult need cooperative Pt 2- Anticholinergic drugs : detrusitol 2 mg twice daily	1- Conservative : a. If discovered during difficult labor → insert rubber catheter and left for 3-6 weeks till fistula heal b. If discovered some time after no operation done except after 3-6 months 2- Surgical : a. 1 st repair carries the best prognosis / multirepair must be tension free b. Preoperative preparation : i. Proper assessment ii. Ttt of vulvitis & cover it by Vaseline iii. Renal function test iv. Culture of urine c. Operations : i. Vaginal : deboulement / saucerisation ii. Abdominal : for large – high – recurrent – near ureter d. Post-operative : vaginal pack for 24 h / catheter for 10-14 day / no sexual course for 3 m & pregnancy for 1 Y / subsequent labor by CS	1- Prevention : a. Preoperative IVP to delineate course or ureteric catheter b. Proper surgical technique c. Immediate repair in operation if discovered 2- Re-implantation of ureter in bladder or end to end anastomosis 3- Implantation into segment of ileum if reimplantation is not possible	Surgical reconstruction of urethra & closure of defect	1- Fistula in lower 1/3 of vagina : convert it into complete perineal tear and suture it in layers 2- Fistula in middle 1/3 : dedoublement operation 3- Fistula in upper 1/3 : abdominal repair due to dense fibrosis 4- Preoperative : purge & daily enema & vaginal douche / non residue diet / neomycin orally 3 days before 5- Post operative : vulva regularly washed / low residue diet continue / intestinal antiseptic / antibiotics for infection
رَبِّ اَوْزِعْنِي اَنْ اَشْكُرَ نِعْمَتَكَ الَّتِي اَنْعَمْتَ عَلَيَّ وَعَلَىٰ وَالِدَيَّ وَاَنْ اَعْمَلَ صَالِحًا تَرْضَاهُ وَاَدْخِلْنِي بِرَحْمَتِكَ فِي عِبَادِكَ الصَّالِحِينَ						

Prolapse

- **Definition :**
Prolapse of one or more of pelvic organs downwards into vagina
- **Types of prolapse:**
 - **Anterior vaginal wall prolapse :** urethrocele – cystocele – cystourethrocele
 - **Posterior vaginal wall prolapse:** rectocele – enterocele
 - **Apical vaginal wall :** utero-vaginal (uterine descent with inversion of vaginal apex) – vault prolapse (after hysterectomy)
- **Degrees :**
 - **1st degree :** descent within vagina - **2nd degree :** descent to the introitus
 - **3rd degree :** descent outside introitus (complete descent of uterus called procidentia)
- **Aetiology :**
 - **Childbirth trauma :** multiparity (risk ↑ 1.5 times with each vaginal delivery) increased duration of 2nd stage of labor with high fetal birth Wt or forceps use – direct pelvic floor injury
 - **Ageing :** every decade of life 30-60 incidence doubles from collagen loss
 - **Congenital weakness :** of pelvic support or spina bifida defective innervation (nulliparous prolapse)
 - **Iatrogenic :** inadequate support of vaginal vault in hysterectomy
 - Any of this + increased IAP
- **Anatomical changes :**
 - **Vagina :** keratinization (being everted exposed to air-trauma) / ulceration (from congestion & circulatory changes)
 - **Cervix :** ulceration in most dependant part / hypertrophy from congestion / supravaginal elongation from stretch on mackenrodt's
 - **Urinary :** descent of base of bladder / kinking of ureter (hydroureter)
- **Symptoms :**
 - **Sensation of pelvic heaviness :** ↑ by end of day - ↓ by rest
 - **Mass filling vagina :** on straining or squatting - ↓ by lying down & reduction
 - **Low backache :** from stretch on uterosacral ligaments & uterus ↑ by heavy work – weight lifting ↓ by rest – lying down
 - **Urinary symptoms :** common (frequency from trigone irritation or cystitis / SUI / inability to complete micturition unless mass is reduced)
 - **Rectal symptoms :** heaviness in rectum / difficult defecation
 - **Menstrual symptoms :** dysmenorrhea / leucorrhea
- **Signs**
 - **General** for causes of increased IAP
 - **Examination** of type & degree of mass / presence of ulcers / if there is complete procidentia
 - **Test levator ani** function by palpation of post vaginal wall & perineum during cough & strain
 - **Diagnosis Of :** supravaginal elongation of cervix by uterine sound to measure cervical length / internal os in relation to fornices depth / associated stress incontinence / enterocele feeling gurgling
- **Investigations :**
 - Urine analysis for culture & sensitivity / IVP for ureter
 - Urodynamic studies for incontinence / pelvic & Abd US
 - Routine preoperative / silver nitrate on ulcers
- **Management :**
 - **Conservative :** Pessary treatment (temporary reduction) till : healing of ulcers – ttt of anemia & correction of liver and kidney function / during pregnancy / medically unfit either ring or shelf type
 - **Surgical :**
 - **cystocele :** anterior colporrhaphy – **rectocele** (posterior colporrhaphy) – **cystorectocele** (classical repair both previous operations)
 - **utero vaginal (with cysto-rectocele) :** classical repair with shortening of mackenrodt's / **same condition + supravaginal elongation :** machester operation (same + amputation of vaginal portion of cervix) / **perimenopausal + marked prolapse** (vaginal hysterectomy and repair)
 - **Enterocele** (either vaginal repair the commonest or abdominal with sacrocolpexy)
 - **vaginal vault prolapse** (abdominal sacrocolpexy – vaginal mesh repair – Leforte's operations)

Leiomyoma

- **Definition :**
Benign tumor of uterine smooth muscles (myometrium)
- **Incidence :** commonest benign tumor of FGT 20% in over 30 women
- **Risk factors :**
 - Nulliparous & low parity more than multiparous
 - Positive family history / Dark races more common / Obese
- **Aetiology :**
 - **Hyper-estrogenism :** evidenced by appear only in childbearing period – increase in pregnancy – decrease in menopause – associated endometrial hyperplasia
 - **Growth factors** (increased EGF – decreased GIF)
 - **Genetic factors :** play a role
- **Pathology :**
 - **Macro :** variable size – rounded – multiple usually – firm – asymmetrical uterine enlargement
 - **Cut section :** whorled appearance paler from uterus – pseudocapsule in which lie blood vessels
 - **Micro :** smooth muscle cells in bundles with fibrous CT
- **Pathological changes :**
 - Atrophy after menopause - hyaline degeneration : commonest
 - Cystic degeneration if absorbed - fatty degeneration
 - Calcification - red degeneration : with thrombosis of BVs
 - Necrosis - Infection - torsion of pedunculated SSM
 - Rupture of surface vei of SSM - incarceration during pregnancy
 - Malignant transformation : very rare 0.5 %
- **Effect on pelvic organs :**
 - **Uterus :** increased in size – enlargement of cavity – endometrial hyperplasia - increased vascularity – displacement or inversion in large fundal ones
 - **Tubes :** chronic salpingitis with infected SMF polyp – obstruction in cornual ones – elongation & stretch in broad ligamentry
 - **Urinary :** frequency if press on bladder – retention if pressing on urethra – hydrourter & hydronephrosis if press on ureter
- **Symptoms :**
 - **Menstrual disorders :** menorrhagia (increased endometrial surface area – interfere with uterine contractions - ↑ vascularity – endometrial hyperplasia) – metrorrhagia (tip of SMF polyp – sarcomatous change)
 - **PAIN :** dull aching (infection / hyaline degeneration) – colicky (extrusion of polyp) – acute abdominal (red degeneration – torsion of SSM – loin (hydronephrosis) – dysmenorrhea SMF
 - **Pressure symptoms :** on bladder → frequency – urethra → retention - II veins → edema – nerves → referd back pain -
 - **Infertility** in 5-10 % interfere with implantation (SMM) or sperm ascent (cervical) – tubal obstruction (cornual or multiple SMM) – associated condition
- **Signs :**
 - **Abdominal examination** : only large ones felt mobile – firm non tender dull on percussion asymmetrical except single ISM or SMM
 - **Pelvic examination** : confirm large by mobility with cervical motion – detect small by asymmetrical uterine enlargement – feel SMF or cervical – uterus fixed in cervical & broad
 - **Speculum** : diagnose SMF polyp protrude from cervix
- **Investigations :**
 - **US :** gold standard diagnose site – size – number / relation to endometrial cavity / exclude any pelvic pathology / SSH for SMF
 - **HSG :** detect uterine cavity enlargement – SMM as filling defect – test for tubal patency
 - **MRI :** differentiate between adenomyosis & leiomyoma / between broad ligamentry – solid ovarian tumor
 - **Laparoscopy :** rare mainly for ttt of ssm
 - **Hysterocopy :** confirm SMF – SMM
 - **Preoperative investigations** including IVP
- **Treatment :**
 - **Conservative :** for asymptomatic small fibroid to be examined periodically each 6-12 M
 - **Medical :** in cases of menorrhagia & uterine enlargement < 12 W
 - **NSAID :** ↓ PGL → ↓ Menstrual flow
 - **Progestin :** atrophic endometrium → control bleeding – regular shedding & cycles
 - **GNRH :** lead to 2ry amenorrhea & ↓ size – vascularity of myoma taken either :
 - **Short term :** Preoperatively for 2-3 M to control bleeding so correcting anemia without blood transfusion & ↓ size of myoma to facilitate procedure
 - **Long term :** for perimenopausal women to induce medical menopause avoiding surgery till natural menopause comes

- **Surgical :**
 - **Indications for surgery in myoma :**
 - **In** asymptomatic patients : multiple large myoma > 14 week / rapid growth or rapid recurrence after removal / certain types (pedunculated SSM / cervical or broad ligamentry / SMF protrude from cervix)
 - Symptomizing Pts : sever intractable bleeding – infertility & RPL if proved to be the cause
 - **Operations are :**
 - **Myomectomy :**
 - Indications : done in symptomatic fibroid in women desirous for fertility after failure of medical ttt / associated infertility or PRL due to myoma .
 - Contraindications: During pregnancy except if torsion occur / after menopause / suspension of sarcomatous change / multiple large myomata
 - Types : abdominal is the commonest / vaginal in SMF polyp or cervical for portio vaginalis / hysteroscopic in SMM < 5cm diameter protrude > 50 % in uterine cavity / laparoscopic mainly SSM < 4 in number < 6 in diameter
 - Complications : excessive blood loss / postoperative fever ileus / persistent of symptoms / recurrence / intestinal adhesions / rupture of uterus later in labor
 - **Hysterectomy :**
 - Indications : multiple or very large especially in perimenopausal or multiparous / post menopausal wit hsymptomizing fibroids
 - Types : Aabdominal / vagina lin uterine enlargement < 12 W with some prolapse / laparoscopic in slightly enlarged
 - **Uterine artery** embolization : with 60% reduction of size
 - **Laparoscopic myolysis** : by laser – coagulation or cryo
 - **MRI guided focused US** produce protein denaturation

Endometriosis

- **Definition :**
Presence of functioning endometrial glands and stroma outside endometrial cavity
- **Aetiology :**
 - Retrograde menstrual flow through tube to peritoneum implanting causing irritation and celomic metaplasia
 - Hematogenous or lymphatic spread : explain endometriosis indistant tissues
 - Genetic and immunological influence : 7% in siblings – altered immunological influence is involved
- **Pathology :**
 - **Pelvic endometriosis :** burned match head spots (multiple small dark red or brown cysts)
 - **Ovarian Endo :** either powder burn (tiny superficial hemorrhagic implants) or chocolate cyst (ovarian endometrioma cyst filled with dark altered blood)
- **Symptoms :**
 - **Type of patient :** midreproductive age – nulliparous – high socioeconomic
 - **Dysmenorrhea :** intramenstrual increscendo (with onset on menses) decrescendo fashion (toward end of cycle)
 - **Dyspareunia :** due to omplants on douglas pouch – uterosacral ligament- ovarian – fixed uterus
 - **Chronic pelvic pain :** > 6 months strongly suggestive of endometriosis
 - **Infertility :** Moderate to sever endo (from periovasarian adhesions lead to impaired ovum pick up / anovulation / dyspareunia) in mild (luteal phase defect – increased tubal macrophage activity)
 - GIT symptoms : pain in defecation due to implant on recto-sigmoid
 - Urinary : dysuria & frequency
 - Distant : lung (hemoptysis) – brain (seizures) – umbilical (monthly bleeding)
- **Signs :**
 - In **minimal lesion** normal examination – but **extensive** : fixed RVF from adhesions / if chocolate cyst: felt as tender tense cystic fixed adenaxal swelling – nodules on douglas pouch : tenderness on vaginal examination
- **Investigations :**
 - **CA-125 :** elevated in endometriosis useful for follow up of response to treatment
 - **Pelvic imaging :** US & MRI can not detect typical endometriotic lesions only large ones – and ovarian endometriosis
 - **Laparoscopy :** gold standard in diagnosis indicated in cases of infertility – chronic pelvic pain – unresolved adnexal masses : you see characteristic brown pigmentations surrounded by adhesions
- **Treatment :**
 - **Medical :** create a state of pseudo pregnancy or pseudomenopause by
 - **OCP :** reapeted courses continuously administered 4-6 M each creating a pseudo-pregnancy state & atrophy – resorption of ectopic endometrium
 - **Progestogen :** continuous therapy of synthetic progestin either tablets 5mg orally of MPA or depot MMPA injections / 3 months
 - **GNRH agonists :** block Pituitary GNRH receptors → suppression of FSH & LH → suppression of ovarian estrogen & transient 2ry amenorrhea (pseudo-menopause) taken IM injection monthly
 - **Danazol :** testosterone derivative lead to suppression of FSH & LH as well as ovarian estrogen & progesterone → atrophic endometrial changes & 2ry amenorrhea finally suppression of endometriotic focus
 - **Surgical :** Laparoscopic excision or laser ablation of all visible lesions & associated adhesions in infertile patients to restore normal anatomy + 3 month course of GNRH preoperatively improve prognosis / TAH-BSO for parients who do not desire for further fertility

Make peace with your past so it won't screw up the present.

Amenorrhea

➤ Definition:

- **Primary amenorrhea** : menses has never occurred by age of 14 without 2ry sexual characters or 16 in presence of 2ry sexual characters

- **Secondary amenorrhea** : cessation of menstruation more than 6 months in reproductive age not due pregnancy

➤ Etiology:

○ **Outflow tract disorders:**

- Imperforate hymen** : congenital absence of orifices in hymen → hematocolpos at time of puberty & cryptomenorrhea / in 0.1 % of born females / present with: 1ry amenorrhea with intact 2ry sexual characteristics & cyclic lower abdominal pain & urinary retention premenstrual / bulge at hymenal ring / confirmed by pelvic US / TTT cruticle incision
- Transverse vaginal septum** : congenital septum between hymenal ring & cervix → hematocolpos & cryptomenorrhea (as imperforate) // TTT : surgical excision
- Asherman's Syndrome** : acquired intrauterine adhesions either from vigorous endometrial curettage or IU infection // present : 2ry amenorrhea + history of endometrial damage // invest : US & HSG & hysteroscopy // TTT : lysis of adhesions by hysteroscopy or D&C
- Mullerian agenesis** (Rokitansky S) : genetic defect lead to failure in development of uterus & cervix & vagina / 20 % of cases with 1ry amenorrhea / 2ry sexual characters are normal
- Testicular feminization S** : X-linked recessive disorder causing defect in peripheral androgen receptors so he fail to develop male sexual characters & develop as a female but genetically 46XY with gonads at labia and failure of mullerian development due to Y gene

○ **Ovarian disorders:**

- Turner S** : 45-XO – commonest cause of 1ry amenorrhea 30% of cases // picture : low hairy line – short stature – webbed neck – increased carrying angle // pathology : absence of Y → normal development of mullerian duct & but absent X lead to development of streak gonads
- Premature ovarian failure** : exhaustion of primordial follicles before 40 either idiopathic (autoimmune) – karyotype abnormalities – or induced (radiation – chemo- mumps)
- Resistant ovary S** : follicles fail to respond to gonadotropins temporarily → 2ry amenorrhea
- PCOS** : chronic anovulation + hyperandrogenism + morphologic changes in ovary
- Iatrogenic** : bilateral surgical oophorectomy or bilateral ovarian destruction

○ **Pituitary disorders:**

- Pituitary adenomas** : prolactinoma is the commonest → suppression of GNRH by elevated prolactin / microadenoma : <10 mm more common than macroadenoma > 10 mm
- Empty sella S** : defect in diaphragm sella allows CSF to enlarge the sella → elevated PRL
- Pituitary insufficiency** : Sheehan's S - radiation necrosis – pituitary infarctions – infiltrations

○ **Hypothalamic disorders:**

- Congenital GNRH deficiency** : Kallman S : congenital deficiency + anosmia
- Emotional stress** : can cause 2ry amenorrhea / pseudocycycyes (prl levels are elevated)
- Rapid weight loss** below 20% of ideal body Wt as in anorexia nervosa or bulimia
- Exercise** when sever stressful compitive → ↑ androphins & 2ry amenorrhea as marathon runners
- Drug induced** : GNRH causing intial stimulation then prolonged suppression for FSH & LH // Progesterine : prevent endometrial shedding & inhibit GNRH pulses // combined estrogen progesterine therapy : in continuous therapy // Androgenic drugs : atrophic endometrial changes
- Hypothalamic tumors** craniopharyngioma / lymphoma & histiocytosis & sarcoidosis

○ **Endocrine disorders** : hypothyroidism & cushing's

➤ History:

- **1ry amenorrhea** : developmental history / cyclic symptoms / history of anosmia
- **2ry amenorrhies** : mense (onset – regularity – LMP) – exercise – stressful events – Drugs – virilizing signs or menopausal symptoms

➤ Examination:

- **1ry amenorrhea** : examine for female sexual characters / BMI / stigmata of turner / genital Exam
- **2ry amenorrhea** : exclude pregnancy & lactation / PCOS & hyperandrogenism

➤ Investigations:

- **Hormonal profile** : B-hCG / prolactin / FSH&LH / serum E₂ & P / testosterone / thyroid functions
- **Pelvic US** : can detect mullerian agenesis / streak gonads & agenesis / Asherman'sS / PCOS
- **Karyotype** : for detection of turner S & testicular feminization
- **Autoimmune screen** : in premature ovarian failure for antibodies
- **CT&MRI** : for suspected intracranial lesions

➤ Management:

○ **Hormonal:**

- Cyclic HRT : cyclic OCP for 21 days in premature ovarian failure –PCOS-hypoplastic uterus not complaining of infertility or cyclic progesterone 7 days every month
 - Drugs of induction : clomiphene citrate in eugonadotrophic / IM gonadotropin in hypogonadotrophic desirous for fertility
 - TTT of hyperprolactinemia : bromocriptine or cabergoline
 - TTT thyroid disturbance : Eltroxin for hypothyroidism / thiouracil for hyperthyroidism
 - TTT of pituitary disorders : cyclic combined HRT for regular cycles or IM gonadotropin for fertility / adenoma if not responsive to medical need trans-sphenoidal surgery or gamma knife
- **Surgical** : cruticle incision of hymen in imperforate hymen / excision of septum / reconstruction for neovagina in testicular feminization with gonadectomy after puberty then long life HRT

Anovulation

➤ Etiology:

- Hypothalamic causes** : Emotional stress- excessive weight loss- sever exercise – sever psychological disturbance / Kallman syndrome / brain tumors / Drug induced
- Pituitary causes** : pituitary adenomas/ empty sella syndrome / pituitary insufficiency
- Ovarian causes** : PCOS / premature ovarian failure / iatrogenic causes
- Endocrinal causes** : hypothyroidism & cushing

➤ Clinical presentation:

- Amenorrhea or oligo-hyomenorrhea mostly 2ry / infertility 1ry or 2ry
- Dysfunctional uterine bleeding / hirsutism

➤ Investigations for detection of ovulation:

- Basal body temperature chart** : daily record for oral temp in morning to detect thermogenic effect of progesterone in luteal phase so in ovulatory cycle show biphasic BBT chart / in anovulatory cycles monophasic chart
- Folliculometry** : serial TVS infollicular phase to monitor dominant follicle till rupture
- Midluteal serum progesterone** : in day 21 of cycle (>10 ng/ml → ovulation / <5 anovulatory cycle / 5-10 means luteal phase defect)
- Urinary LH kits** : detect preovulatory LH surge in urine for best time of coitus
- Premenstrual endometrial biopsy** : show secretory changes → ovulatory cycle / proliferative → non ovulatory / weak secretory → LPD

➤ Treatment:

1. **Clomiphene citrate:**

- Compete with estrogen for hypothalamic receptors → artificial hypoestrogenic state → ↑ GNRH → ↑ FSH → follicular growth → ↑ E₂ → +ve feedback on LH → surge
- Dose : 50mg oral tab twice daily for 5days from 5th day of menses
- Indications : 1st line for induction in normal FSH & intact axis
- Side effects : flushes & headache / multifetal preg / OHSS I-II / LPD & hostile mucus
- Tamoxifen : antiestrogenic has same action used for breast cancer after mastectomy
- Cyclofenil : related to CC with weak estrogenic effect

2. **Pituitary gonadotropins:**

- Types : HMG (75IU FSH + 75 IU LH) / purified urinary FSH (75 FSH + 1LH) / synthetic FSH by recombinant DNA
- Mode : stimulation of growth og primordial follicle
- Indications : CC resistant / hypogonadotrophic anovulation / ICSI & IVF protocols
- Dose : repeated IM injections from midfollicular phase till complete maturation
- Side effects OHSS III–IV / multifetal pregnancy

3. **HCG:**

- Action : Induce atrificial LH surge leading to ovulation
- Indications Used after course of CC or HMG to induce LH surge
- Dose : 2 ampoules each 5000 mIU IM after full follicular maturation

4. **GNRH agonists:**

- Action : in small doses ↑ FSH → follicular maturation / in larger dose → down regulation or receptors → gonadotrophins
- Indications : IVF/ICSI protocols to prevent premature ovulation by suppression of LH

5. **Combined therapy** : CC/HMG/hCG or GnRH /HMG/ hCG

6. **Drugs to assist in induction:**

- Bromocriptine : to TTT hyperprolactinemia 0.2mg 1-2 tab daily
- Metformin for insulin resistance in PCOS / thyroid for hypo / corticosteroids for Addison

7. **Surgical (laproscopic ovarian drilling)** multiple small punctures by diathermy to decrease ovarian androgens / for selected cases of POCS / can cause ovarian damage – peritubal adhesions / time limited effect 3-6 M

Infertility

➤ Etiology:

1. **Male factor:**

- **Abnormal spermatogenesis** : increased scrotal temp / genetic causes / drug induced
- **Failure of transport** : bilateral epididymal obstruction (gonorrhea – vas absence) – bilateral surgical obstruction of vas (vasectomy – inguinal hernia) – immotile cilia S
- **Failure of semen deposition** : ejaculatory dysfunction (impotence – retrograde ejaculatio

2. **Female factor:**

○ **Ovarian factor:**

- Hypothalamic : sever exercise or emotional stress – excessive wt loss- sever depression – drug induced – kallaman S- brai tumors
- Pituitary causes : prolactinomas – epty sella S - pituitary insufficiency – adenomas
- Ovarian : PCOS – premature ovarian failure – resistant ovary S
- Endocrinal : hypothyroidism & cushing
- **Tuboperitoneal factor:**
- Chronic salingitis : from STDs – purepural or post abortive – non specific or specific
- Mechanical obstruction :
- Surgical trauma :

- Pelvic endmetriosis : causing peritoneal & peritubal adhadiions
- Pelvic peritonitis : from appendicitis – ruptured gall bladder
- Congenital anomiles : tubal aplasia or hypoplasia

▪ **Uterine factor:**

- Uterine myomata large or multiple interstitial or SMM if bicorneal or endometrial polyps
- Intrauterine synechae : over curettage of basal layer – acute septic endometritis – chronic TB
- Congenital uterine anomalies : bicornuate or septate – uterine hypoplasia or aplasia

▪ **Cervical factor:**

- Change in cervical mucus properties : scanty or visid
- Infection either acute or chronic cervicitis
- Antisperm antibodies in cervical mucus
- Conization or excessive cauterization destroying cervical glands
- Cervical fibroid elongating cervical canal

3. **Coital disorders:**

- **Dyspareunia** : painful coitus
- **Vaginism** : reflex spasm of levators & gluteus & thigh muscles on any intercourse attempt
- **Effluvium seminis** : excessive escape of semen from vagina after intercourse

4. **Unexplained infertility:**

- **Diagnosed by exclusion** in 15 % of infertile cases . possible causes are : psychological factors – defective sperm fertilization – dcerased ovarian reserve – occult cervical infection

➤ Investigations:

1. **Investigations of male factor:** semen analysis by masturbation 3-4days abstinence / hormonal assay (FAH&LH & PRL & testosterone) – Doppler US on testicles –testicular biopsy - karyo

2. **Assessment of ovarian factor:**

- **History** : irregular cycles with periods of 2ry amenorrhea suggestive of anovulatory disorder
- **Symptoms** : midcycle pain –spotting – leucorrhea suggestive of ovulation
- **Investigations** : BBT charts – folliculometry – MLSP – PEB- urinary LH kits // serum FSH&LH – serum prolactin – serum androgen (discussed in anovulation)

3. **Assesment of uterine factor:**

- Pelvic US : detect uterine myoma –endometrial polypv – adnexal masses
- Saline infusion sonography : saline injected under TVS detect endometrial abnormalities & tubal patency
- HSG : visualization of uterine cavity abnormalities (congenital anomalies – filling defect) and internal lumen of fallopian tubes
- Hysteroscopy : direct visualization of uterine cavity by an optic lens also do minor procedures
- PEB : to exclude TB endometritis

4. **Assessment of tubal & peritoneal factors:**

- HSG : detect patency of tube – pelvic adhesions – hydrosaplinx – tubal peritoneal spill can detect peritoneal adhesions if limited or localized in control film – TB endometritis & salpingitis – improves pregnancy rate in 1st 3-6 months
- Laparoscopy : direct visualization of pelvic peritoneum – organs and external surface of tubes by optic lens detecting (adhesions – pelvic pathology as endometriosis – ovarian pathology PCO) – also you can inject dye and observe its spillage through tube to ensure patency

5. **Assessment of cervical factor:**

- Physical properties of cervical mucus : by microscopic examination & doning ferling test & thread test detect if mucus is preovulatory (profuse –thin) or post ovulatory (thick-viscid)
- Post coital test : examination of cervical mucus 6-10 h afte intercourse at time of ovulation t osee number of living and dead sperms & presence of leukocytes

➤ Management:

1. **Male factor:**

- General measures: vitamins & antioxidants – TTT impotence – stop smoking –change drugs
- Hormonal TTT : CC & HMG for defective spermatogenesis
- Surgical TTT : ligation of varicocele
- ART : IUI (in coital dysfunction –erection disorders – mild oligospermia – female cervical – unexplained) – IVF (mild male factor – unexplained sever tubal damage – failed tuboplasty) – ICSI (sever male factor – failed oocyte fertilization after IVF)

2. **Female factor:**

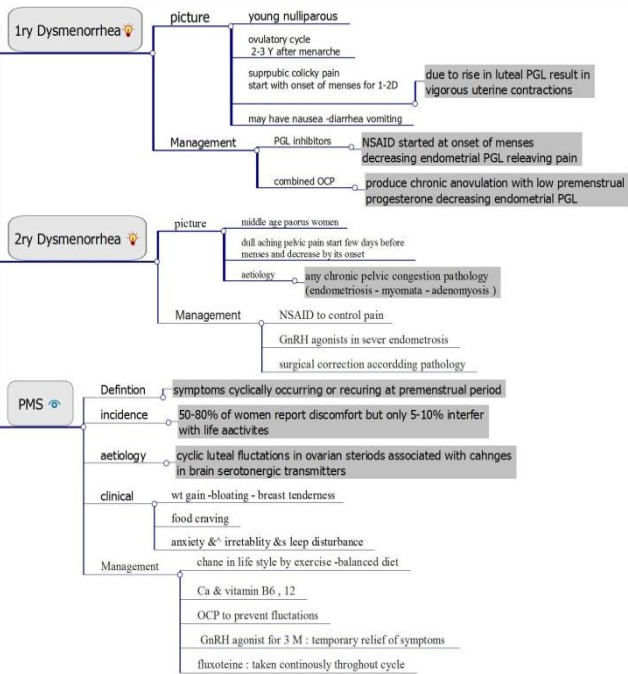
- Ovarian factor : same TTT or induction of ovulation as in anovulation
- Tubo-peritoneal factor :
 - Grade I-II tubal damage : operative laparoscopy(adhesiolysis of fine inflammatory adhesions – or cauterization of small endometriosis)- laparotomy (fimbrioplasty – salpingostomy)
 - Grade III –IV : IVF or ICSI
- Uterine factor : hysteroscopic removal of polyps or synechiae – SMM – resction of a septum
- Cervical factor : treatment of cause (cervicitis – hostile mucus –polyp removal) – estrogen & mucolytic drugs to improve mucus – IUI to ccervix to endometrial cavity

3. **Unexplained infertility:** Revaluation of both parterners and doing further tests not done – superovulation induction protocols with HMG – repeated IUI for 3 cycles – IVF/ICSI at last

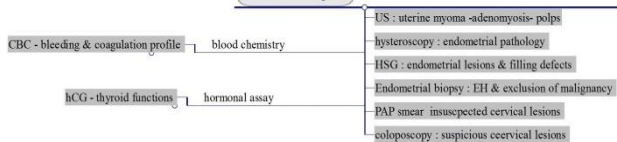
- ***You don't have to win every argument. Agree to disagree***

Disorders of menstruation

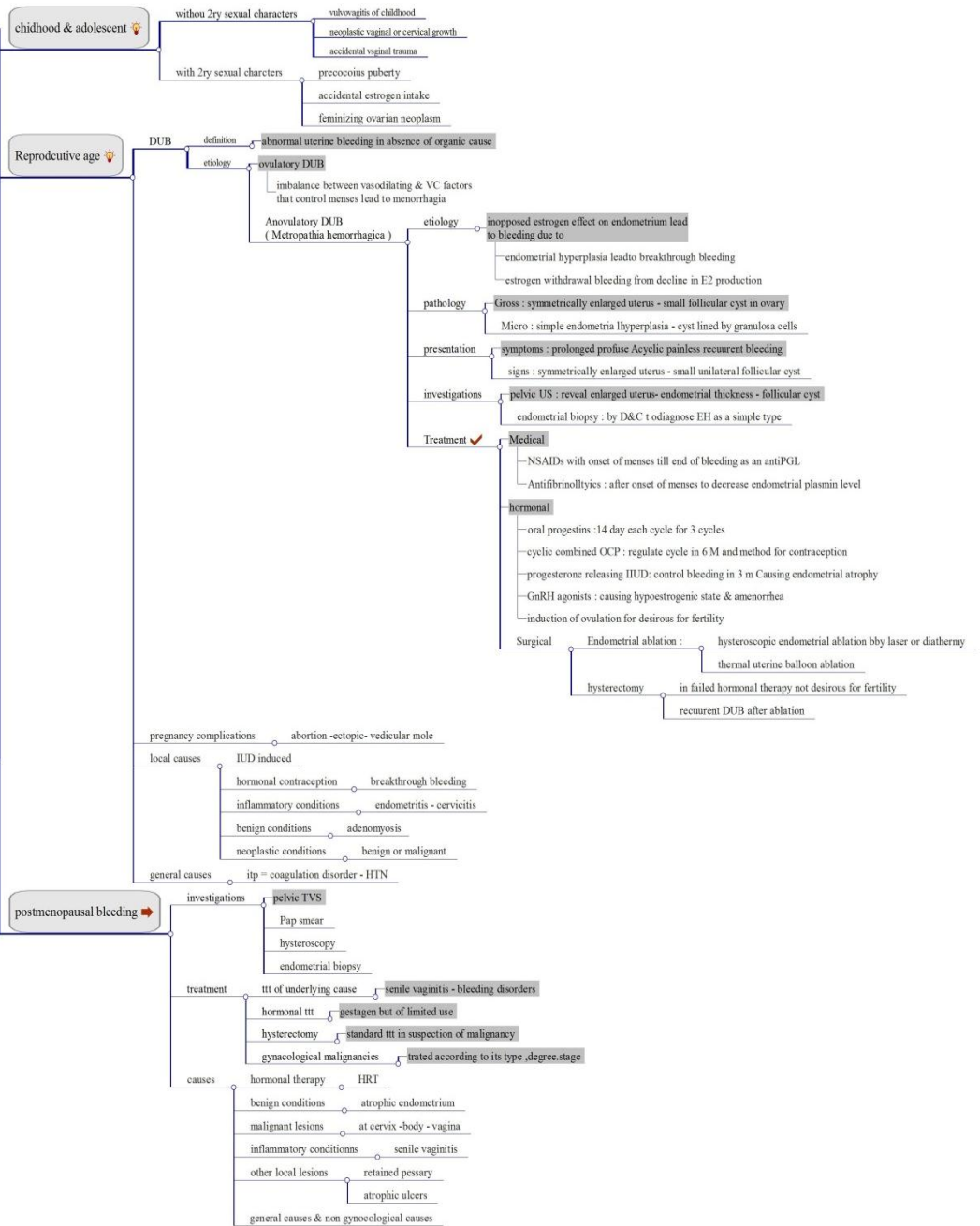
painful menstruation



Investigations in case of bleeding



AUB



PCOS

- **Definition :**
- Chronic **anovulation** (2ry amenorrhea) – **hyperandrogenism** (hirsutism –elevated serum LH) – **characteristic US morphology** (increased ovarian size & volume – peripherall yarranged follicles . necklace appearance)
- **Prevalance :**
- 5-10 women in reproductive age – commonest ovarian cause of 2ry amnorrhea
- **Pathogenesis :**
- **High LH :** from increased LH pulse & frequency → stimulate androgen secretion by theca cells – inhibit aromatase enzyme so increasing ovarian androgen
 - **Hyperandrogenemia :** from stimulation of theca cells by high LH & inhibition of aromatase so lead to → atresia of follicles – high serum androgen – hirsutism – conversion of androgen into estrone in fat cells
 - **Hyperinsulionemia :** due to peripheral insulin resistance lead to → increased sensitivity of theca cells to LH – decreased aromatase activity – decreased production og SHBG
- **Clinical presentation :**
- 2ry **amenorrhea** & infertility from chronic anovulation
 - **Hirsutism** from hyperandrogenemia
 - **Obesity** & glucose intolerance / DUB may occur from EH due to unopposed action of estrogen
- **Investigations :**
- **Hormonal assa y :**
 - LH levels : elevated with normal FSH lead to abnormal LH/FSH ratio > 2:1
 - Elevated levels of : estrone – androstendione – free testosterone
 - Hyperinsulinemia from insulin resistance
 - US ; increased ovarian size & volume – necklace appearance – no dominant or mature follicle
 - **Laparoscopic picture :** Oyster shell ovary (enlarged ovary – thick capsule – absent gyri)
- **Long term risks :**
- DM & CVS disease & obesity
 - Endometrial hyperplasia → endometrial carcinoma
- **Management :**
- **Weight reduction :** reduces insulin & androgen – improve response to therapy
 - **Hormone therapy :** cyclic gestagen for 10 days every cycle to induce regular cycle / combined OCP for 21 day for regular cycle
 - **Induction of ovulation** for fertility : CC / purified HMG / recombinant FSH / HCG injections
 - **Insulin sensitizing drugs :** metformin to improve insulin sensitivity
 - **Corticosteroids :** t oussupress ACTH in case of adrenal hyperandrogenemia
 - **Surgical TTT :** LOD t odecree ovarian androgen
 - **Hirsutiam TTT :** cyptorone acetate – laser depilation

Hirsutism

- **Definition :**
- Excessive growth of androgen dependant sexual hair on upper lip –chin –inner thigh – trunk
- Classification :**
- 1.**Mild :** fine pigmented hair over chest – abdomen –perineum –face
 - 2.**Moderate :** cotse pigmented hair at same places
 - 3.**Sever :** coarse pigmented hair at face –tip of nose – ear lobes
- **Etiology :**
- 1.**Idiopathic :** increased receptor sensitivity to androgen with normal female androgen
 - 2.**Adrenal gland causes :** congenital adrenal hyperplasia – adrenal tumors
 - 3.**Ovaian causes :** PCOS – androgenic ovarian tumors as sertoli lyedig cell tumor
 - 4.**Mixed ovarian & adrenal**
 - 5.**Pituitary causes :** cushing \$ - acromegaly
 - 6.**Androgenic drugs :** danazol inendometriosis
- **Investigations :**
- 1.**Hormonal assay :** plasma testosterone level(0.2-0.8 ng/ml) – free T level – DHAS 1500-2500
 - 2.**Radiological investigations :** CT &MRI in pituitary causes / & abdominal –pelvic US for tumor
- **Treatment :**
- 1.**Elimination of specific causes :** removal of tumor – stoppage of drug - ttt of cushing
 - 2.**Hair removal techniques :** shaving & tweezing / Bleaching for mild cases / electrolysis-laseer
 - 3.**Suppression of androgen synthesis:**
 - **OCP :** decrease ovarian androgen production – increase SHBG so decreasing free T
 - **Corticosteroids :** suppression adrenal androgen production in CAH
 - **Spironolactone :** diuretic that inhibit 5 alpha reductase
 - **Cypreterone acetate :** potent progestin & antiandrogen that inhibit LH & decrease androgen level for 10 days
 - 4.**Androgen receptor blocker :** inhibit binding of DHT to receptors → direct inhibition of hair growth

Menopause

- **Definition :**
- Permanent cessation of menstruation due to intrinsic ovarian failure with mean age 51.5y
- **Endocrinal changes :**
- Decreased serum **inhibin** & **E2** produced by ovary
 - Increase serum **FSH** followed by LH
 - Increase free T & decrease in **SHBG**
 - These changes occur in **climacteric** period (few years preceding menopause)
- **Pathological changes :**
- **Urogenital atrophy :**
 - **Vagina :** atrophic epithelium – loss of rugae – increased PH
 - **Pelvic ligaments :** weaker prdispose to POP
 - **Uterus :** smaller with atrophic endometrium < 5mm / fibroid decrease in size
 - **Cervix :** become flushed – squamo-columnar junction migrates higher
 - **Urethra & bladder:** loss of elasticity → UTI – SUI
 - **Breast changes :** smaller –flabby – progressive fatty replacement
 - **Skin & hair :** loss of collagen so lost thickness & elasticity – more alopecia
 - **CNS :** affect cognitive function & mood
- **Clinical features :**
- **Hot flushes :** recurrent waves of heat over chest –neck- face followed by cold sweating and last for 1-5 min start in perimnapause / it is due to inappropriate stimulatino of thermoregulatory centers at hypothalamus lead to VD of skin
 - **Nervous Symptoms :** anxiety – irritability – mood changes – sleep disturbances
 - **GIT symptoms :** constipation – abdominal distention
 - **Genital symptoms :** dyspareunia form senile vaginitis / POP from ligament weakness
 - **Urinary symptoms :** frequency, dysuria, SUI
 - **Andronergic manifestations :** increased facial hair - baldness
- **Remote health hazards :**
- **CVS changes :** estrogen deficiency → hypercholesterolemia – increased LDL – atherosclerosis – hypertension – myocardial infarction
 - **Osteoporosis :** estrogen deficiency lead to imbalance between osteoclasts & osteoblasts causing fractures of vertebrae & increased curvature of spine // TTT by : bisphosphonate – calcitonin- HRT – selective estrogen receptor modulators - phytoestrogens
- **Management :**
- **Reassurance** & tell patients natural changes
 - **Regulation** of diet & regular exercise
 - **Sedatives** & tranquilizers on individual basis
 - **Periodic examination** and investigations (TVS – mammogram – pap smear)
 - **Hormone replacement therapy**
 - **Benefits :** reduce menopausal symptoms – reduce vaginal dryness – prevent osteoprosis
 - **Risks :** increased CVS risk – venous thromboembolism – breast cancer – EH & cancer
 - **Indications :** sever menopausal symptoms – premature menopause – risk of osteoprosis
 - **Contraindications :** undiagnosed bleeding – brest cancer – DVT history – liver disease
 - **Types :** estrogen only therapy (with absent uterus) – cyclic estrogen & progesterone (regular endometrial shedding) – continuous combined for 1-2 years
 - **Routes :** oral route – transdermal patch – IM injections monthly – local intravag cream
 - **Follow up :** periodic clinical examination – breast examination – TVS – pap smear – periodic Mamo – Bone densitometry

Perineal lacerations

- **Causes :**
- **Bad management of 2nd stage of labour :** premature extension of head – lack of adequate perineal support – instrumentel delivery
 - **Inadequately performed episiotomy in :** delivery of malpositions - usage of forceps – rigid perineum – narrow suprapubic angle
 - **Rapid delivery of head :** as in precipitate labour
 - **Sever edema of vulva :** asin pre-eclampsia
 - **Direct external trauma :**
- **Degress :**
- **1st degree :** involve skin & superficial perineal muscles
 - **2nd degree :** levator ani is involved as well but anal sphincter in intact
 - **3rd degree :** external sphincter is invoved –rectal mucosa may be involved also
- **Complications :**
- **PPH** from bleeding from lacerations
 - **infection** of laceration
 - **Patuolous vaginal introitus**
 - **genital prolapse**
 - **Incontinence** of stool & flatus in complete tears
 - **Residual rectovaginal fistula**
 - **Dyspareunia** from tender scar
- **Prevention :**
- **Proper management of 2nd stage** preventing premature extension
 - **Adequate episiotomy** in instrumatal delivery & risk for lacerations

Management :

- **Primary sutures** can be done if discovered within **24 hours** – if seen later left 3-6 M after all signs of inflammation disappear
- **Preoperative care :** purge & daily cleansing enema to empty boel / vaginal douche / non residue diet free of milk / intestinal antiseptics orally for 3 days
- **Operation :**
 - **Recent 1st or 2nd degree :** sutured I layers (1st levator ani then superficial perineal muscles lastly vagina & skin are sutured all by interrupted sutures)
 - **Recent 3rd degree :** rectal wall is sutured in 2 layers 1st continuous then interrupted without suturing mucosa till apex – then anal spincther is sutured
 - **Old 3rd degree :** deep horizontal incision to separate vagina & rectum then 2 verticla ones at site of 2 dimples of anal sphincter – then repair as recent 3rd degree – posterior colpo-perineorrhaphy is done . then vainal pack & urinary catheter is put
- **Post operative care :**
 - Vulva regularly washed by antiseptic 3 time sdaily
 - Continue low residue diet & intestinal antiseptic
 - Antibiotics for infection – pack removed after 24 hours & catheter
 - On 5th day given oral puratgative solution then daily oral laxative to prevent constipation

Vaginal discharge

Types & causes :

- **Leucorrhoea :** excessive white noninfected vaginal discharge either physiological (in puberty – preovulatory – during pregnancy) or pathological (pelvic congestion as fibroids – adnexal mass)
- **Coloured offensive :** bacterial vaginosis , trichomonas
- **Mucopurulent :** chronic cervicitis
- **Purulent offensive :** any infection (septic abortion –purperal sepsis – pyometra ..etc)
- **Blood stained :** atrophic vaginitis – ulcers – cervical erosion –fibroid polyp)
- **Watery :** intermittent hydrosalpinx – urinary fistla

History :

- **Age of onset** – if recurrent and previous antibiotics
- Vaginal **hygienic** practice
- **Menstrual** history , sexual history , obstetric history , contraceptive history , medical condition
- **Symptoms :** character of discharge – burning sensation – itching or pruritis

Signs :

- **Vulva** is inspected for vulvitis
- **vagina & cervix :** inspected for white plaques – strawberry spots – frothy discharge
- Milking of **urethra** through vagina to deteat gonorrhea
- **Bimanual** examination for adnexal masses

Investigations :

- **Wet mount** preparation & microscopic examination
- Addition of 10% **KOH** for fishy amine odour of BV
- Vaginal **swab** & culture
- **Pap smear** – **biopsy** suspicious lesions
- **X-ray** for foreign body in young infants

Treatment :

- Treatment of cause – proper genital hygiene inculding douching
- Proper treatment of 1st attack

الباطل تغلب ماكر، والحق شاة وادعة، ولولا نصره الله للحق لما انتصر

على الباطل أبداً

أينما وجد المسلم الصحيح وجدت معه أسباب النجاح جميعا

Other works for 5th year :

Lissauer 's extra topics
Clinical pediatrics
obstetric revision

M. Behairy